increasing the length 206 by approximately 20 percent of the process minimum increases the potential required to deplete the reset channel. In one embodiment, the gate 108 may have a predetermined length that is approximately twice the process minimum (e.g., 0.35 micorons) based on the material length 206. But, the increase in potential required to deplete the reset channel. But, the increase in potential required to deplete the reset channel significantly decreases the likelihood of a soft reset during a read operation (i.e. subthreshold leakage does not degrade low light operation) and promotes the proper functioning of the various forms of tapered reset. An additional result of increasing the length of the gate 108 is that the doping of the gate 108, source 106, drain 110, and associated channel may be decreased.

On page 8; the paragraph starting at line 13 is amended as follows:

In FIG. 3, a cross sectional view of an exemplary implementation of the sensor 300 of FIG. 1 is illustrated. The FET transistor 302 has a gate 304, a source 306, and a drain 308. The drain 308 of the transistor 302 is connected to the deep implant 316 of photo-detector 310. The gate 304 has a n-type region 312, a p-type region 314, and a dielectric insulator 316. The source 306 includes a p-type well 318 located in a substrate 320. In this implementation, material is located between the p-type well 318 of the source 306 and the drain 308. The length 322 of the material is defined by the separation of the source 306 from the drain 308 beneath the gate 304. The length 322 of the material is preferably at least 20 percent longer than the process minimum. As a result, the gate 108 may have a predetermined length that is approximately twice the process minimum.